Appl. No. 10/656,096
Amdt. dated June 8, 2007
Reply to Office Action of March 20, 2007

PATENT

REMARKS/ARGUMENTS

Claims 1, 2, 4-8, 10-14 and 16-20 are currently pending.

Claims 1, 2, 4, 7, 8, 10, 13, 14, and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0110263 to Shillo (hereinafter "Shillo") in view of U.S. Patent Application Publication No. 2004/0205206 to Naik et al. (hereinafter "Naik") and further in view of U.S. Patent Application Publication No. 2003/0131098 to Huntington et al. (hereinafter "Huntington").

Claims 5, 6, 11, 12, 17 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shillo in view of Naik and further view of Huntington and in further view of U.S. Patent Application Publication No. 2003/0135385 to Karpoff (hereinafter "Karpoff").

Claims 19 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shillo in view of Naik and further view of Huntington and in further view of Karpoff and in further in view of U.S. Patent Application Publication No. 2003/0236790 to Honmura et al. (hereinafter "Honmura").

Applicants respectfully request reconsideration of the claims in view of the remarks below.

Rejections under 35 U.S.C. 103

Claims 1, 2, 4, 7, 8, 10, 13, 14, and 16

Claims 1, 2, 4, 7, 8, 10, 13, 14, and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shillo in view of Naik and further in view of Huntington.

Applicants submit that Shillo, Naik, and Huntington, either alone or in combination, fail to teach at least each element of independent claims 1, 7, and 13. For example, claim 1, recites, in part, a management server connected to a plurality of servers to manage storage areas included in storage apparatuses as virtual storage areas, wherein:

> said management server being responsive to an area assignment
> instruction of storage areas exceeding unassigned areas received from one of said
> plurality of servers to release at least part of said assignment areas of other servers
> as unassigned areas and assign released areas to one of said plurality of servers,
> wherein upon receiving an area assignment instruction, the management server

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judges whether (i) a size of the unassigned areas exceeds a size of the storage areas specified by said area assignment instruction, (ii) a total size of the unassigned areas and unused areas exceeds the size of the storage areas specified by said area assignment instruction, or (iii) a total size of the unassigned areas, the unused areas and storage areas having stored low-priority data exceeds the size of the storage areas specified by said area assignment instruction, and <u>when the condition (iii) is met, said management server releases at least part of storage areas in which the low-priority data is stored, of the assignment areas of other servers as unassigned areas and assigns at least areas to one of said plurality of servers.</u> (emphasis added)

Applicants submit that Shillo, Naik, and Huntington fail to teach (1) a management server configured to release assigned storage areas on <u>other servers</u> and (2) conditionally releasing storage areas in which low priority data is stored only when the total amount of unused storage area, assigned but unused storage area, and low priority storage area exceeds the amount of storage area needed to satisfy an assignment instruction.

The Office Action admits that Shillo and Naik fail to teach the features of claim 1 described above, and instead relies upon Huntington to teach these features. Applicants submit, however, that even if Shillo, Naik, and Huntington were combined as suggested in the Office Action (although there appears to be no motivation to do so), that Huntington also fails to teach at least these features of claim 1.

Huntington fails to disclose or suggest at least a management server connected to a plurality of servers to manage storage areas included in storage apparatuses as virtual storage areas, wherein "said management server releases at least part of storage areas in which the low-priority data is stored, of the assignment areas <u>of other servers</u> as unassigned areas and assigns at least areas to one of said plurality of servers" as recited in independent claim 1.

The Office Action relies upon Fig. 5 and paragraphs 62, 63, and 69 of Huntington to teach these features of claim 1. However, the cited portions of Huntington merely disclose a segment cache subsystem and a network recording cache format. The segment caching subsystem of Huntington merely provides a persistent memory cache for storing network traffic on one or more fixed storage devices. The segment caching subsystem reads a section allocation map associated with each available fixed storage device and builds a "free section list" to keep track of free space on the fixed storage devices. When storage space is needed, the segment

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caching subsystem attempts to allocate storage space from the free list, and if no space is available, the segment cache subsystem may recycle super block sections that have aged or have a low priority. See Huntington, paragraphs 0037 and 0062. The segment caching subsystem of Huntington is merely configured to release storage space on the fixed storage devices associated with the segment cache subsystem though. Huntington is silent as to the segment caching subsystem being configured to releasing storage areas assigned to other servers as recited in claim 1.

The network cache recording format disclosed in Huntington and cited in the Office Action fails to remedy this deficiency. The network cache recording cache format disclosed in Huntington merely comprises "network recording cache format useful for providing local cached network data storage on fixed storage media. Huntington, paragraph 0069. The network recording cache format merely provides local data caching and does not disclose providing a data cache on another server, much less releasing storage areas assigned to other servers as recited in claim 1.

Huntington also fails to teach conditionally releasing "at least part of storage areas in which the low-priority data is stored, of the assignment areas of other servers as unassigned areas and assigns at least areas to one of said plurality of servers" where "a total size of the unassigned areas, the unused areas and storage areas having stored low-priority data exceeds the size of the storage areas specified by said area assignment instruction" as recited in claim 1. Instead, Huntington merely provides:

> "When space becomes needed, that segment cache subsystem allocates fixed increments of storage space from the free list. If no free space is available, that segment cache subsystem may recycle super block sections which have been archived to removable storage media, or may recycle super block sections which have aged or have a low priority." Huntington, paragraph 0062.

The segment cache subsystem of Huntington, therefore, may recycle super block sections, including super block sections including older and/or low priority data, in order to free up storage space. However, Huntington is silent as to conditionally releasing storage areas comprising low priority data and assigned but unused storage areas only if the total size of the

unused, unassigned, and low priority storage areas together exceeds the amount of the storage requested in an area assignment instruction as recited in claim 1.

Accordingly, Applicants submit that even if Huntington were combined with Shillo and Naik as suggested by the Office Action (even though there appears to be no motive to do so), the combination still fails to be disclose or suggest each element of claim 1. Furthermore, dependent claims 2 and 4 should also be allowable at least due to their dependence from independent claim 1.

Applicants further submit that even if *arguendo*, the combination of Shillo, Naik, and Huntington did disclose or suggest each of the features recited in claim 1 (which is does not), one skilled in the art would not be motivated to combine Huntington with Shillo and Naik, because the proposed modification would render the network capture device of Huntington unsatisfactory for its intended purposes. According to MPEP 2143.901, "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)."

Applicants submit that the system management server disclosed in Shillo is designed to collect physical storage resources distributed across a network into a virtual storage pool from which the system management server can allocate segments of storage to applications requiring storage. See Shillo, Abstract.

Huntington, in contrast, is directed toward a network capture device that "provide[s] a full time network recording system to record large numbers of packets communicated on a network segment with minimal user intervention, and to provide facilities for retrieval, analysis, diagnostics, translation verification, and evidentiary use." Huntington, paragraph 0005. The network capture device of Huntington "samples network traffic on a network segment by [a] non-intrusive connection. Sampled traffic is delivered from the network capture device to a stream filter subsystem, which filters the incoming traffic using filter criteria to remove traffic that is not desired to be recorded." Huntington, paragraph 0037.

Applicants submit that if Huntington were combined with Shillo as suggested by the Office Action, and the storage used by the network capture device were distributed across the

network, then the network capture device of Huntington would generate additional network traffic as network data traffic data captured by the network capture device was routed over the network. Therefore, the combination of Huntington and Shillo would no longer provide "non-intrusive connection" for a sampling network traffic, which was one of the objective of Huntington. Accordingly, Applicants submit that one skilled in the art would not be motivated to combine Shillo and Huntington as suggested by the Office Action.

Independent claims 7 and 13 should be allowable for a similar rationale as claim 1, and others. Furthermore, dependent claims 8 and 10, which depend from independent claim 7, and claims 14 and 16, which depend from independent claim 13, should also be allowable at least due to their dependence from independent claims 7 and 13, respectively.

Claims 5, 6, 11, 12, 17 and 18

Claims 5, 6, 11, 12, 17 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shillo in view of Naik and further view of Huntington and in further view of Karpoff.

Claim 5, 6, 11, 12, 17 and 18 depend from claims 1, 7, and 13, respectively, and the rejection of claims 5, 6, 11, 12, 17 and 18 is premised on the assertion that the combination of Shillo, Naik, and Huntington discloses or suggests the features recited in claims 1, 7, and 13 and Karpoff discloses or suggests the remaining features of claims 1, 7, and 13. As discussed above, however, the combination of Shillo, Naik, and Huntington does not disclose or suggest all of the features recited in claims 1, 7, and 13. As best understood, Karpoff provides no teaching or suggestion that would remedy this deficiency. Therefore, the rejection is based on a flawed premise and cannot be maintained. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 5, 6, 11, 12, 17 and 18.

Claims 19 and 20

Claims 19 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shillo in view of Naik and in view of Huntington and in further view of Karpoff and in further in view of Honmura.

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Claim 19 and 20 depend from claim 1, respectively, and the rejection of claim 1 is premised on the assertion that the combination of Shillo, Naik, and Huntington discloses or suggests the features recited in claim 1 and that Karpoff and Honmura disclose or suggest the remaining features of claim 1. As discussed above, however, the combination of Shillo, Naik, and Huntington does not disclose or suggest all of the features recited in claim 1. As best understood, Karpoff and Honmura provide no teaching or suggestion that would remedy this deficiency. Therefore, the rejection is based on a flawed premise and cannot be maintained. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 19 and 20.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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